



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,986	02/03/2004	Russell Hudyma	01641/100K021-US5	3566

7278 7590 04/25/2006

DARBY & DARBY P.C.  
P. O. BOX 5257  
NEW YORK, NY 10150-5257

EXAMINER
----------

PRITCHETT, JOSHUA L

ART UNIT	PAPER NUMBER
----------	--------------

2872

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/771,986

Applicant(s)

HUDYMA, RUSSELL

Examiner

Joshua L. Pritchett

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 14 and 16-30 is/are allowed.
- 6) ☒ Claim(s) 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This action is in response to Request for Continued Examination filed April 10, 2006 and Amendment filed February 16, 2006. Claims 1, 7 and 11 have been amended as requested by the applicant.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braat (US 6,255,661) in view of Foo (US 5,515,207).

Braat teaches a photolithographic reduction projection objective comprising a first optical group including an even number of at least six mirrors (Fig. 1) wherein the third mirror (6) and fourth mirror (7) are disposed optically after a first mirror (1) and a second mirror (5) but are physically disposed between the first and second mirror (Fig. 1). Braat lacks reference to a second dioptric optical group more imageward than the first group. Foo teaches a dioptric second optical group more imageward than the catoptric first group (Fig. 1) for reducing the

Art Unit: 2872

image (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Braat invention include the second optical group of Foo for the purpose of correcting aberrations introduced into the image by the mirrors of the first optical system in Braat, to provide a more coherent image to the wafer.

*Allowable Subject Matter*

Claims 1, 2, 4-12, 14 and 16-30 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 7, the prior art fails to teach or suggest a catadioptric system comprising a first optical group including an even number of at least six mirrors and a second substantially dioptric optical group more imageward than the first optical group, wherein the first optical group provides compensative axial color correction for the second optical group and a virtual image is formed by the first group physically on the object side of the sixth mirror and optically further along the optical beam path after the sixth mirror.

Regarding claim 11, the prior art fails to teach or suggest a catadioptric system comprising a first optical group including an even number of at least six mirrors and a second substantially dioptric optical group more imageward than the first optical group, wherein the first optical group provides compensative axial color correction for the second optical group and an intermediate image is formed between the fourth and fifth mirrors and a virtual image is formed by the first group optically further along the optical beam path after the sixth mirror.

Art Unit: 2872

The remaining claims depend from claims 1, 7 and 11 and are allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

Applicant's arguments, see Amendment, filed February 16, 2006, with respect to claims 1, 5 and 11 have been fully considered and are persuasive. The rejection of claims 1, 5 and 11 has been withdrawn. Applicant argued that the Shafer reference was no longer prior art based on 103(c). The examiner agrees. Applicant also amended the claim language to overcome 112 rejections.

Applicant's arguments, see Amendment, filed February 16, 2006, with respect to the rejection(s) of claim(s) 13 under Shafer have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Braat in view of Foo. Applicant argued that the Shafer reference was no longer prior art based on 103(c). The Braat reference and Foo reference are now used to teach the claimed limitations.

*Conclusion*

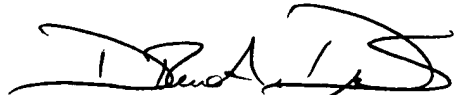
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 

  
**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**